

Listing of Claims

1. (Currently Amended) A magnetic resonance imaging method for forming an image of an object from a plurality of signals acquired by an array of multiple receiver antennae, wherein
 - spins are excited in a part of the object,
 - slices with a predetermined Field-of-View are selected for scanning the object,
 - said selected slices are scanned in an oblique relationship with respect to the cartesian coordinate system of said Field-of-View,
 - MR signals are measured along a predetermined trajectory containing a plurality of lines in said slices in k-space by application of a read gradient and other gradients,
~~characterized in that~~ wherein said slices are positioned in lengthwise direction for obtaining a staggered arrangement of said slices such that the beginning and the end positions of each of said slices are at least approximately within said Field-of-View.
2. (Currently Amended) A method as claimed in claim 1,~~characterized in that~~ wherein the selected slices are rotated uniformly over a predetermined angle in order to obtain said oblique relationship.
3. (Currently Amended) A method as claimed in claim 1 ~~or 2, characterized in that~~ wherein the beginning position of any subsequent slice with respect to the prior one is shifted over the slice thickness multiplied with the sinus of the rotating angle.
4. (Currently Amended) A method as claimed in claim 3,~~characterized in that~~ wherein lines to be scanned within each of said slices have a uniform offset along a line perpendicular to the direction of the slice.
5. (Original) A magnetic resonance imaging apparatus for obtaining an MR image from a plurality of signals comprising:
 - means for excitation of spins in a part of the object,
 - means for selection of slices with a predetermined Field-of-View for scanning the object,

- means for selecting said slices in an oblique relationship with respect to the cartesian coordinate system of said Field-of-View,
- means for measuring MR signals along a predetermined trajectory containing a plurality of lines in said slices in k-space by application of a read gradient and other gradients,
- means for setting the scanning direction of said slices in such a manner that tissue outside the area of interest is not covered, and
- means for positioning said slices in lengthwise direction obtaining a staggered arrangement of said slices such that the beginning and the end positions of each of said slices are at least approximately within the area of interest.

6. (Original) A magnetic resonance imaging apparatus as claimed in claim 5, further comprising means for rotating the selected slices uniformly over a predetermined angle in order to obtain said oblique relationship.

7. (Original) A computer program product stored on a computer usable medium for forming an image by means of the magnetic resonance method, comprising a computer readable program means for causing the computer to control the execution of:

- excitation of spins in a part of the object,
- selection of slices with a predetermined Field-of-View,
- selecting said slices to be scanned in an oblique relationship with respect to the cartesian coordinate system of a rectangular area of interest,
- measuring MR signals along a predetermined trajectory containing a plurality of lines in said slices in k-space by application of a read gradient and other gradients,
- setting the scanning direction of said slices in such a manner that tissue outside the area of interest is not covered, and
- positioning said slices in lengthwise direction obtaining a staggered arrangement of said slices such that the beginning and the end positions of each of said slices are at least approximately within the area covered by the slices before rotation.

8. (Original) A computer program product according to Claim 7, comprising rotating the slices uniformly over a predetermined angle in order to obtain said oblique relationship.

9. (Currently Amended) A computer program product according to claim 7~~or 8~~, comprising providing of a uniform offset along a line perpendicular to the direction of the slice for lines to be scanned within each of said slices.